Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
Western Regional Office • 436 Dwight Street, Springfield MA 01103 • 413-784-1100

Date **October 27, 2015**

Ms. Carolynne O'Connell
Judd Wire, Inc.
124 Turnpike Road
Turners Falls, MA 01376

RE: Turners Falls (Montague)
Transmittal No.: X266186
Application No.: WE-15-007
Class: *SM-50*
FMF No.: 131077
AIR QUALITY PLAN APPROVAL

Administrative Amendment

Dear Ms. O'Connell:

The Massachusetts Department of Environmental Protection ("MassDEP"), Bureau of Air and Waste, has reviewed your Limited Plan Application ("Application") listed above. This Application concerns the proposed addition of two new extrusion lines (Lines #29 and #31), replacement in kind of two existing extrusion lines (Lines #5 and #13), and an upgrade to increase the capacity of an existing extrusion line (Line #14). Due to an exceedance of the operational emission limits stated in Plan Approval #WE-13-031 (dated January 12, 2015) and subsequent issuance of a Notice of Noncompliance by MassDEP (dated May 20, 2015), Judd Wire, Inc. has proposed an increase in the worst-case volatile organic compound content of the inks and solvents used. The above construction, alteration and operations will take place at your wire manufacturing facility located at 124 Turnpike Road in Turners Falls, Massachusetts ("Facility").

This Application was submitted in accordance with 310 CMR 7.02 Plan Approval and Emission Limitations as contained in 310 CMR 7.00 "Air Pollution Control," regulations adopted by MassDEP pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-J, Chapter 21C, Section 4 and 6, and Chapter 21E, Section 6. MassDEP's review of your Application has been limited to air pollution control regulation compliance and does not relieve you of the obligation to comply with any other regulatory requirements.

MassDEP has determined that the Application is administratively and technically complete and that the Application is in conformance with the Air Pollution Control regulations and current air pollution control engineering practice, and hereby grants this **Plan Approval** for said Application, as submitted, subject to the conditions listed below. **The original Plan Approval**

(dated August 25, 2015) modified the facility's volatile organic compound and hazardous air pollutant material content limits as well as material usage amounts established in Plan Approval #WE-13-031, dated January 12, 2015. All provisions related to the four existing irradiation vaults (Emission Unit #s 3, 4, 10 and 11) remain in effect.

This second administrative amendment (dated October 27, 2015) incorporates new worst-case ink volatile organic compound content information received by the facility from the vendor, subsequent to the issuance of the August 25, 2015 Plan Approval.

Please review the entire Plan Approval, as it stipulates the conditions with which the Facility owner/operator ("Permittee") must comply in order for the Facility to be operated in compliance with this Plan Approval.

1. DESCRIPTION OF FACILITY AND APPLICATION

Judd Wire, Inc. (Judd Wire) is a wire and cable manufacturing facility which has been in operation since 1953. Production takes place 24 hours per day, six days per week. They have approximately 275 employees. The facility extrudes an insulating polymer "jacket" onto copper wire. The extruded wire/polymer is marked and striped with inks and passed through one of four irradiation vaults to crosslink the polymer. These processes can vary in order. The Standard Industrial Classification (SIC) code for this facility is 3357, *Drawing and Insulating of Nonferrous Wire*.

Judd Wire obtained Plan Approval WE-13-031 on January 12, 2015. MassDEP received a letter dated May 8, 2015 from Judd Wire stating that, since the issuance of the plan approval, Judd Wire had used printing inks with a volatile organic compound (VOC) content greater than the facility's approved limit of 6.3 pounds of VOC per gallon (lbs/gal) of ink. According to Judd Wire, the higher VOC material is used to improve print durability of the facility's aerospace products and to reduce the amount of scrap product. A Notice of Noncompliance was issued by MassDEP, dated May 20, 2015 requiring that the facility submit this current Limited Plan Application by a specified date.

VOCs are emitted from the extrusion, marking, and striping processes. Hazardous air pollutants (HAPs) are emitted in the marking and striping processes. These processes are each explained below. All potential emissions were based on operations taking place 8,760 hours per year at maximum process rates of the equipment and using worst-case volatile organic compound (VOC) and hazardous air pollutant (HAP) contents from material safety data sheets (SDS). As such, with the addition of the two new extrusion lines and the increase capacity of Line #14, the facility has a potential to emit 56.9 tons per year (tpy) of VOCs and 28.1 tpy of total HAPs.

The facility notified MassDEP via telephone on October 13, 2015 that an updated safety data sheet was received from the vendor of the facility's worst-case VOC ink and that the previously stated VOC content of 7.4 lbs/gal had increased to 7.46 lbs/gal. The facility has stated that typically less than two (2) gallons of this worst-case ink is used per year. It was determined that this operational limit could be increased without a significant increase in overall VOC emissions. Table 2 reflects these changes from the previous Plan Approval dated August 25, 2015.

Extrusion Lines

Judd Wire proposes to add two additional extrusion lines designated as Lines #29 and #31 and to also increase the extrusion capacity on extrusion Line #14. With the addition of the two new extrusion lines, Judd Wire will have twenty-two (22) extrusion lines with a total of thirty-nine

(39)[1] extrusion heads. The two new lines will add capacity of 761 pounds per hour (lbs/hr) for a total extrusion capacity of 6,097 lbs/hr.

The polymer compounds used are either received ready-made from suppliers or are mixed in-house within the facility's compounding room. In-house polymer is prepared by mixing "general purpose" and/or a "wire & cable" polyvinylchloride (PVC) material with additives such as cross-linking agents, anti oxidizers and flame retardants which are then extruded into pellet form. The pellets are then fed into the extrusion heads that coat the wire. During 2014, Judd Wire approached the material usage limit for the cross linking thermo plastic olefin (CL-TPO) material and, because extrusion capacity will be increasing, has proposed a 75% increase in the usage of this material.

The compounding room extrusion line and the high temperature extrusion lines[2] are equipped with a fabric filter and electrostatic precipitators (ESP), respectively. These units prevent components in the exhaust vent from condensing onto the interior of the duct work which can cause blockages and a fire hazard. It was determined that both devices meet the exemption criteria of 310 CMR 7.02(2)(b)1., because neither device is otherwise required by regulation for air pollution control. VOC emissions from the compounding room extrusion line are vented through Stack A (previously Stack B) as listed in Table 7.

Potential and proposed VOC emissions from the extrusion process were estimated using emission factors determined by EPA Method 24 of 40 CFR Part 60, Appendix A as supplied by Judd Wire's largest supplier of compounding materials. The flame retardant material contains an ingredient, antimony, listed on the United States Environmental Protection Agency's (USEPA) list of hazardous air pollutants. Judd Wire stated in their application that the antimony compound remains in the matrix of the PVC during the extrusion process. MassDEP agrees with this assessment and so HAP emission limits have not been approved for this part of the process.

VOC and HAP emissions from the operation of each extruder are vented to the atmosphere through four separate identical 2.5 foot diameter exhaust lines (Table 7, Stacks A, C, D, and H).

Marking Process

Sixteen (16) of the twenty-two (22) extrusion lines are capable of marking the wire. Inks, extenders and thinners containing VOCs and HAPs are used in the marking process.

[1] This count does not include the compounding extrusion line. Extrusion line #18 is not included in the total because it is used for research and development only.
[2] High temperature extrusion lines process materials at a temperature of 550^{o}F. Low temperature extrusion lines process materials at a temperature of 375^{o}F.

Each extrusion line has a contact printer[3] or an inkjet printer, or both. Of the twenty-two (22) extrusion lines, four (4) lines will have both types of printers installed, but only one printer can be used on the line at a time. In these four cases, potential and proposed emissions were calculated using an emission factor for the contact printer because this type emits VOCs and HAPs at the highest rate.

Striping Process

The facility has twenty (20) striping lines. This process utilizes inks, extenders and thinners which contain VOCs and HAPs.

Like with marking, striping lines will have a contact printer, an inkjet printer, or both types. Of the twenty (20) striping lines, one (1) line will have both types of printers installed, but only one printer can be used on the line at a time. Potential and proposed VOC and HAP emissions were calculated using the worst-case contact printer VOC and HAP emission factor.

Each striping line has two infrared electric ovens that are not subject to Plan Approval. The striping equipment is hand cleaned using paper rags and a solvent on an as-needed basis. VOC and HAP emissions from the operation and cleaning of each striping line are vented to the atmosphere through a 2.0 foot diameter exhaust line (Stack J).

Proposed Emissions from Marking and Striping Operations

Judd Wire proposed new VOC and HAP emission limits based on an expected increase in production capacity due to the installation of the two new extrusion lines and the upgrade to extrusion Line #14. Total ink usage from the current Plan Approval #WE-13-031 was increased by 10.7%. Extender, solvent and thinner materials were re-grouped into the two categories of "extender" and "solvent/thinner." Some thinner allocated in the previous plan approval were redefined by Judd Wire to be extenders. As a result, the facility has proposed a 12.4% increase in the combined gallon usage of extenders, solvents and thinners. The material limits for each group were allocated to the marking and striping processes in proportion to usage trends observed during the first four months of 2015. Emission limits proposed by Judd Wire were determined from these new material usage estimates in combination with the worst-case VOC and HAP content information taken from product safety data sheets (SDS).

[3] A contact printer has a small wheel that spins (approximately 4 inches). The bottom of the wheel picks up ink from a reservoir. Ink is applied to the wire as it is passing over the outside surface of the wheel.

Best Available Control Technology (BACT) Statement

Judd Wire has proposed an emission control limitation which will combine best management practices, pollution prevention, and a limitation on raw material usage (310 CMR 7.02(8)(a)2.b.). Best management practices for handling VOC and HAP materials and MassDEP guidelines for solvent metal degreasing have been included in Table 6, Special Terms and Conditions.

Judd Wire will continue to evaluate the use of lower VOC and HAP containing materials.

Applicable Regulatory Requirements

The facility is subject to the visible emission requirements of 310 CMR 7.06, the dust, odor, construction and demolition requirements of 310 CMR 7.09 and the noise reduction requirements of 310 CMR 7.10.

The facility has stated in its application that it is not subject to the USEPA New Source Performance Standards (NSPS) or the USEPA National Emission Standards for Hazardous Air Pollutants (NESHAPs).

2. EMISSION UNIT (EU) IDENTIFICATION

Each Emission Unit (EU) identified in Table 1 is subject to and regulated by this Plan Approval:

Table 1

EU#	Description	Design Capacity		
		Amount Extruded (pounds/hour)	**Contact Printer Ink/Thinner/Extender** (gallons/hour)	**Inkjet Printer Ink/Thinner/Extender** (gallons/hour)
5	**EXTRUSION LINE WITH MARKING**			
	#3(Main), LT, Davis Standard, 3.5 inches	579	0.013/0.013/0.016	0.0055/0.0007/0.0159 (#7, ink, 0.0022)
	#3(Sub), LT, Davis Standard, 1.25 inches	27		
	#4(A), LT, American Kuhne, 3.5 inches	579		
	#4(B), LT, Davis Standard, 3 inches	332		
	#5(Main), LT, Davis Standard, 2.5 inches	192		
	#5(Sub), LT, American Kuhne, 1.5 inches	42		
	#6(Main), LT, MPM, 2.5 inches	192		
	#6(Sub), LT, American Kuhne, 1.5 inches	42		
	#7(Main), HT, Davis Standard, 1.5 inches	42		
	#10(Main), HT, Davis Standard, 2 inches	98		
	#13(Main), LT, Davis Standard, 2 inches	98		
	#13(Sub), LT, American Kuhne, 1.5 inches	42		
	#14(Main), LT, American Kuhne, 2.5 inches	192		
	#16(Main), LT, Davis Standard, 2.5 inches	192		
	#16(Sub), LT, Davis Standard, 1.5 inches	42		
	#17(Main), LT, Davis Standard, 2.5 inches	192		
	#17(Sub), LT, Davis Standard, 1.5 inches	42		
	#25(Main), LT, Mitsuba, 2.95 inches	332		
	#25(Sub), LT, Davis Standard, 1.5 inches	42		
	#26(Main), LT, Mitsuba, 2.95 inches	332		
	#27(Main), LT, Mitsuba, 2 inches	98		
	#29(Main), LT, American Kuhne, 3.5 inches	579		
	#30(A), LT, Mitsuba, 2.95 inches	332		
	#30(B), LT, Mitsuba, 2.55 inches	200		
	#31(A), LT, American Kuhne, 2 inches	98		
	#31(B), LT, American Kuhne, 1.5 inches	42		
	#31(Sub), LT, American Kuhne, 1.5 inches	42		

Table 1				
EU#	**Description**	**Design Capacity**		
		Amount Extruded (pounds/hour)	**Contact Printer Ink/Thinner/Extender** (gallons/hour)	**Inkjet Printer Ink/Thinner/Extender** (gallons/hour)
7	**EXTRUSION LINE WITHOUT MARKING**			
	Compounding, Coperion	131	N/A	N/A
	#8(A), HT, Davis Standard, 1.5 inches	42		
	#8(B), HT, Thermoplastic, 1.5 inches	42		
	#9(A), HT, Davis Standard, 1.25 inches	27		
	#9(B), HT, Royle, 1.5 inches	42		
	#11(A), HT, American Kuhne, 2 inches	98		
	#11(B), HT, Davis Standard, 1.5 inches	42		
	#12(A), HT, APV, 1.5 inches	42		
	#12(B), HT, Davis Standard, 1.5 inches	42		
	#15(A), LT, GOTO, 2.35 inches	185		
	#15(B), LT, GOTO, 2.95 inches	332		
	#18(Portable), LT, Genca, 0.75 inches	8		
	#23(Sub), LT, Genca, 1.5 inches	42		
8	**PRINT STRIPE LINE**	**# of Contact/Inkjet Printers**	0.013/0.013/0.016	0.0055/0.0007/0.0159 (#5, 12, 21 and 22, ink, 0.0022)
	Line #1, Formulabs, 6052-B	1/0		
	Line #2, unknown	1/0		
	Line #3, Formulabs, 6052-B	1/0		
	Line #4, unknown	1/0		
	Line #5, Formulabs, 6052-B	0/1		
	Line #6, United States Machinery, ST200V	1/0		
	Line #7, Judd Wire, custom	1/0		
	Line #8, Formulabs, 604-A	1/0		
	Line #9, Formulabs, T-604-A	1/0		
	Line #10, Formulabs, 604-A	2/1		
	Line #11, United States Machinery, ST200V	2/0		
	Line #12, Inkjets between payoff and take up	0/1		
	Line #13, Inkjets between payoff and take up	0/1		
	Line #15, United States Machinery, ST302	1/0		
	Line #16, United States Machinery ST302	1/0		
	Line #21, Formulabs, 604-A	0/1		
	Line #22, Kenrake, WST-200S	0/1		
	Line #23, Kenrake, WST-200S	1/0		
	Line #25, Inkjet between machine equipment	0/1		
	Line #31, Inkjets between payoff and take up	0/3		

Table 1 Key:

EU# = Emission Unit Number
N/A = Not applicable
LT = Low temperature extrusion line
HT = High temperature extrusion line

3. APPLICABLE REQUIREMENTS

A. OPERATIONAL, PRODUCTION and EMISSION LIMITS

The Permittee is subject to, and shall not exceed the Operational, Production, and Emission Limits as contained in Table 2 below:

Table 2

EU#	Operational / Production Limit	Air Contaminant	Emission Limit
5	Marking Ink: ≤ 720 gal/yr ≤ 144 gal/mo ≤ 7.50 lbs VOC/gal ≤ 4.91 lbs HAP_{total}/gal ≤ 3.64 lbs HAP_{single}/gal Extender: ≤ 234 gal/yr ≤ 47 gal/mo ≤ 7.85 lbs VOC/gal ≤ 2.04 lbs HAP_{total}/gal ≤ 2.04 lbs HAP_{single}/gal Thinner/solvent: ≤ 559 gal/yr ≤ 112 gal/mo ≤ 6.9 lbs VOC/gal ≤ 6.9 lbs HAP_{total}/gal ≤ 4.14 lbs HAP_{single}/gal	VOC	5.5 TPY 1.1 TPM
		HAP (total)	3.9 TPY 0.79 TPM
		HAP (single)	2.5 TPY 0.49 TPM
5 and 7	FR-TPO: ≤ 30,500 lbs/yr ≤ 6,100 lbs/mo ≤ 0.00613 lb_{VOC}/ lb[(1)] CL-TPO: ≤ 6,141,200 lbs/yr ≤ 1,228,240 lbs/mo ≤ 0.000193 lb_{VOC}/ lb[(1)] General purpose PVC: ≤ 21,000 lbs/yr ≤ 4,200 lbs/mo ≤ 0.000616 lb_{VOC}/ lb[(1)] Wire & Cable PVC: ≤ 1,398,300 lbs/yr ≤ 279,660 lbs/mo ≤ 0.000307 lb_{VOC}/ lb[(1)]	VOC	0.82 TPY 0.16 TPM

Table 2			
EU#	**Operational / Production Limit**	**Air Contaminant**	**Emission Limit**
8	Printing ink: ≤ 482 gal/yr ≤ 96 gal/mo ≤ 7.50 lbs VOC/gal ≤ 4.91 lbs HAP_{total}/gal ≤ 3.64 lbs HAP_{single}/gal Extender: ≤ 127 gal/yr ≤ 25 gal/mo ≤ 7.85 lbs VOC/gal ≤ 2.04 lbs HAP_{total}/gal ≤ 2.04 lbs HAP_{single}/gal Thinner/solvent (including cleaning): ≤ 433 gal/yr ≤ 87 gal/mo ≤ 6.9 lbs VOC/gal ≤ 6.9 lbs HAP_{total}/gal ≤ 4.14 lbs HAP_{single}/gal	VOC	3.8 TPY 0.76 TPM
		HAP (total)	2.8 TPY 0.56 TPM
		HAP (single)	1.8 TPY 0.35 TPM

Table 2 Key:

EU = Emission Unit Number
VOC = Volatile Organic Compounds
TPY = tons per consecutive12-month period
TPM = tons per month
lbs VOC/gal = pounds of VOC per gallon
gal/yr = gallons per year
gal/mo = gallons per month
HAP (single) = maximum single Hazardous Air Pollutant
FR-TPO = Flame retardant thermo plastic olefin
CL-TPO = Cross linking thermo plastic olefin
PVC = Polyvinyl chloride
HAP (total) = total Hazardous Air Pollutants.
lb/yr = pounds per year
lb/mo = pounds per month
lbs HAP_{total}/gal = pounds of total HAP per gallon
lbs HAP_{single}/gal = pounds of single HAP per gallon

Table 2 Notes:

(1) – VOC emission factors for EU 5 and EU 7 determined by Method 24 of 40 CFR Part 60, Appendix A supplied by Judd Wire's largest supplier of compounding materials.

B. COMPLIANCE DEMONSTRATION

The Permittee is subject to, and shall comply with, the monitoring, testing, record keeping, and reporting requirements as contained in Tables 3, 4, and 5 below:

Table 3

EU#	Monitoring and Testing Requirements
5, 7	1. In accordance with 310 CMR 7.02(3)(d), the Permittee shall monitor the total amount extruded onto wire (in pounds) of: a. Flame retardant thermo plastic olefin (FR-TPO); b. Cross linking thermo plastic olefin (CL-TPO); c. General purpose Polyvinyl chloride (PVC); d. Wire & cable PVC.
5, 8	2. In accordance with 310 CMR 7.02(3)(d), the Permittee shall, for each ink, thinner, extender, and cleaning solvent monitor the: a. Trade name of product; b. Gallons of product used; c. Density of product; d. VOC weight fraction; e. Total HAP weight fraction; f. Single HAP weight fraction (including name of single HAP).
Facility-wide	3. The Permittee shall, upon request of the MassDEP, perform or have performed tests to characterize volatile matter content and density of the printing inks and related coatings according to USEPA prescribed methods to demonstrate compliance, such as Method 24A.
	4. The Permittee shall monitor all operations to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.
	5. If and when MassDEP requires it, the Permittee shall conduct emission testing in accordance with USEPA Reference Test Methods and regulation 310 CMR 7.13
	6. At least 30 days prior to emission testing, the Permittee shall submit to MassDEP for approval a stack emission pretest protocol.
	7. Within 45 days after emission testing, the Permittee shall submit to MassDEP a final stack emission test results report.

Table 3 Key:

EU# = Emission Unit Number
VOC = Volatile organic compound
MassDEP = Massachusetts Department of Environmental Protection
USEPA = United States Environmental Protection Agency
CMR = Code of Massachusetts Regulations
HAP = Hazardous air pollutant

Table 4

EU#	Record Keeping Requirements
5, 7	1. In accordance with 310 CMR 7.02(3)(d), the Permittee shall record the total amount extruded onto wire (in pounds) of: a. Flame retardant thermo plastic olefin (FR-TPO); b. Cross linking thermo plastic olefin (CL-TPO); c. General purpose PVC; d. Wire & cable PVC.
5, 8	2. In accordance with 310 CMR 7.02(3)(d), the Permittee shall, for each ink, thinner, extender, and cleaning solvent record the following: a. Name of product; b. Gallons of product used; c. Density of product; d. VOC weight fraction; e. Total HAP weight fraction; f. Single HAP weight fraction (including name of single HAP).
Facility-wide	3. The Permittee shall maintain adequate records on-site to demonstrate compliance with all operational, production, and emission limits contained in Table 2 above. Records shall also include the actual emissions of air contaminant(s) emitted for each calendar month and for each consecutive twelve month period (current month plus prior eleven months). These records shall be compiled no later than the 15th day following each month. An electronic version of the MassDEP approved record keeping form, in Microsoft Excel format, can be downloaded at: http://www.mass.gov/eea/agencies/massdep/air/approvals/limited-emissions-record-keeping-and-reporting.html#WorkbookforReportingOn-SiteRecordKeeping.
	4. The Permittee shall maintain records of monitoring and testing as required by Table 3.
	5. The Permittee shall maintain a copy of this Plan Approval, underlying Application and the most up-to-date SOMP for the EU(s) approved herein on-site.
	6. The Permittee shall maintain a record of routine maintenance activities performed on the approved EU(s) and monitoring equipment. The records shall include, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed.

Table 4	
EU#	**Record Keeping Requirements**
	7. The Permittee shall maintain a record of all malfunctions affecting air contaminant emission rates on the approved EU(s) and monitoring equipment. At a minimum, the records shall include: date and time the malfunction occurred; description of the malfunction; corrective actions taken; the date and time corrective actions were initiated and completed; and the date and time emission rates and monitoring equipment returned to compliant operation.
	8. The Permittee shall maintain records to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.
	9. The Permittee shall maintain records required by this Plan Approval on-site for a minimum of five (5) years.
	10. The Permittee shall make records required by this Plan Approval available to MassDEP and USEPA personnel upon request.

Table 4 Key:

EU = Emission Unit Number
SOMP = Standard Operating and Maintenance Procedure
PVC = Polyvinyl chloride
CMR = Code of Massachusetts Regulations
PCD = Pollution Control Device
USEPA = United States Environmental Protection Agency
VOC = Volatile organic compound
HAP = Hazardous air pollutant

Table 5	
EU#	**Reporting Requirements**
Facility-wide	1. The Permittee shall, by January 31st of each year, submit to MassDEP an annual summary of the 12 monthly reports from the previous calendar year. The report shall summarize emissions for: 1) each calendar month, and 2) for each rolling twelve month period (current month plus prior eleven months) for each month.
	2. The Permittee shall submit to MassDEP all information required by this Plan Approval over the signature of a "Responsible Official" as defined in 310 CMR 7.00 and shall include the Certification statement as provided in 310 CMR 7.01(2)(c).
	3. The Permittee shall notify the Western Regional Office of MassDEP, BAW Section Chief by telephone (413) 755-2115, email, *marc.simpson@state.ma.us* or fax (413) 784-1149, as soon as possible, but no later than one (1) business day after discovery of an exceedance(s) of Table 2 requirements. A written report shall be submitted to the Section Chief at MassDEP within three (3) business days thereafter and shall include: identification of exceedance(s), duration of exceedance(s), reason for the exceedance(s), corrective actions taken, and action plan to prevent future exceedance(s).
	4. The Permittee shall report every three years to MassDEP, in accordance with 310 CMR 7.12, all information as required by the Source Registration/Emission Statement Form. The Permittee shall note therein any minor changes (under 310 CMR 7.02(2)(e), 7.03, 7.26, etc.), which did not require Plan Approval.
	5. The Permittee shall provide a copy to MassDEP of any record required to be maintained by this Plan Approval within 30-days from MassDEP's request.
	6. The Permittee shall submit to MassDEP for approval a stack emission pretest protocol, at least 30 days prior to emission testing, for emission testing as defined in Table 3 Monitoring and Testing Requirements.
	7. The Permittee shall submit to MassDEP a final stack emission test results report, within 45 days after emission testing, for emission testing as defined in Table 3 Monitoring and Testing Requirements.

Table 5 Key:

EU# = Emission Unit Number
BAW = Bureau of Air and Waste
CMR = Code of Massachusetts Regulations
MassDEP = Massachusetts Department of Environmental Protection

4. SPECIAL TERMS AND CONDITIONS

The Permittee is subject to, and shall comply with, the following special terms and conditions:

A. The Permittee shall comply with the Special Terms and Conditions as contained in Table 6 below:

Table 6

EU#	Special Terms and Conditions
5, 7, 8	1. The Permittee shall institute the following BMPs for VOC handling: a. Store all VOC-containing materials in closed containers; b. Ensure that mixing and storage containers used for VOC-containing materials are kept closed at all times except when depositing or removing these materials; c. Minimize spills of VOC-containing materials; d. Convey VOC-containing materials from one location to another in closed containers or pipes; e. Minimize VOC emissions from cleaning of application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleanup solvent; f. Store and dispose of all absorbent materials, such as cloth or paper that are contaminated with VOC-containing materials in non-absorbent containers that shall be kept closed except when placing materials in or removing materials from the container.
8	2. The Permittee shall ensure that exhaust fumes are vented when hand cleaning operations using VOC containing cleaners are taking place.
Facility-wide	3. EUs 5, 7 and 8 shall consist of the equipment specified in Table 1 herein. Each piece of equipment shall be clearly marked as designated in Table 1.
	4. Any prior Plan Approvals issued under 310 CMR 7.02 shall remain in effect unless specifically changed or superseded by this Plan Approval. The Facility shall not exceed the emission limits and shall comply with approved conditions specified in the prior Plan Approval(s) unless specifically altered by this Plan Approval.

Table 6 Key:

EU = Emission Unit Number
BMPs = Best management practices
VOC = Volatile organic compound
BAW = Bureau of Air and Waste
CMR = Code of Massachusetts Regulations

B. The Permittee shall install and use an exhaust stack, as required in Table 7, on each of the Emission Units that is consistent with good air pollution control engineering practice and that discharges so as to not cause or contribute to a condition of air pollution. Each exhaust stack shall be configured to discharge the gases vertically and shall not be equipped with any part or device that restricts the vertical exhaust flow of the emitted gases, including but not limited to rain protection devices known as "shanty caps" and "egg beaters." The Permittee shall install and utilize exhaust stacks with the following parameters, as contained in Table 7 below, for the Emission Units that are regulated by this Plan Approval[1]:

Table 7

EU	Stack Height Above Ground/Roof (feet)	Stack Inside Exit Dimensions (feet)	Stack Gas Exit Velocity Range (feet per second)	Stack Gas Exit Temperature Range (^{0}F)
5, 7	20/10	2.5	Extrusion/Marking (Stack A) 10.2	70 - 77
			Extrusion/Marking (Stack C) 26.6	70 - 81
			Extrusion/Marking (Stack D) 30.5	70 - 78
			Extrusion/Marking (Stack H) 27.9	70 - 75
8	28/10	2.0	Striping (Stack J) 62.3	70 - 86
3	31.0/16.0	1.2	Irradiation Vault 1 (Stack E) 32.4	70 - 82
4	35.50/11.50	2.5	Irradiation Vault 2 (Stack F) 6.8	70 - 85
10	53/31	2.0	Irradiation Vault 3 (Stack I) 34.8	70 - 75
11	79/57	2.0	Irradiation Vault 4 (Stack G) 144.3	70 - 77

Table 7 Key:

EU = Emission Unit Number

^{o}F = Degrees Fahrenheit

Table 7 Notes:

1 – Stack parameters for Emission Units 3, 4, 10 and 11 (four (4) irradiation vaults) are included herein. Judd Wire has, as a condition of Plan Approval #WE-13-031, made changes to various stacks and has updated this information.

5. GENERAL CONDITIONS

The Permittee is subject to, and shall comply with, the following general conditions:

A. Pursuant to 310 CMR 7.01, 7.02, 7.09 and 7.10, should any nuisance condition(s), including but not limited to smoke, dust, odor or noise, occur as the result of the operation of the Facility, then the Permittee shall immediately take appropriate steps including shutdown, if necessary, to abate said nuisance condition(s).

B. If asbestos remediation/removal will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that all removal/remediation of asbestos shall be done in accordance with 310 CMR 7.15 in its entirety and 310 CMR 4.00.

C. If construction or demolition of an industrial, commercial or institutional building will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that said construction or demolition shall be done in accordance with 310 CMR 7.09(2) and 310 CMR 4.00.

D. Pursuant to 310 CMR 7.01(2)(b) and 7.02(7)(b), the Permittee shall allow MassDEP and / or USEPA personnel access to the Facility, buildings, and all pertinent records for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.

E. This Plan Approval does not negate the responsibility of the Permittee to comply with any other applicable Federal, State, or local regulations now or in the future.

F. Should there be any differences between the Application and this Plan Approval, the Plan Approval shall govern.

G. Pursuant to 310 CMR 7.02(3)(k), MassDEP may revoke this Plan Approval if the construction work is not commenced within two years from the date of issuance of this Plan Approval, or if the construction work is suspended for one year or more.

H. This Plan Approval may be suspended, modified, or revoked by MassDEP if MassDEP determines that any condition or part of this Plan Approval is being violated.

I. This Plan Approval may be modified or amended when in the opinion of MassDEP such is necessary or appropriate to clarify the Plan Approval conditions or after consideration of a written request by the Permittee to amend the Plan Approval conditions.

J. The Permittee shall conduct emission testing, if requested by MassDEP, in accordance with USEPA Reference Test Methods and regulation 310 CMR 7.13. If required, a pretest

protocol report shall be submitted to MassDEP at least 30 days prior to emission testing and the final test results report shall be submitted within 45 days after emission testing.

K. Pursuant to 310 CMR 7.01(3) and 7.02(3)(f), the Permittee shall comply with all conditions contained in this Plan Approval. Should there be any differences between provisions contained in the General Conditions and provisions contained elsewhere in the Plan Approval, the latter shall govern.

6. MASSACHUSETTS ENVIRONMENTAL POLICY ACT

MassDEP has determined that the filing of an Environmental Notification Form (ENF) with the Secretary of Energy & Environmental Affairs, for air quality control purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act (MEPA) and 301 CMR 11.00, Section 11.04, provide certain "Fail-Safe Provisions," which allow the Secretary to require the filing of an ENF and/or an Environmental Impact Report (EIR) at a later time.

7. APPEAL PROCESS

This Plan Approval is an action of MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Plan Approval.

Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts, which are the grounds for the request, and the relief sought. Additionally, the request must state why the Plan Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars ($100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

This request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

MassDEP may waive the adjudicatory hearing-filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

Should you have any questions concerning this Plan Approval, please contact Amy Stratford by telephone at (413) 755-2144, or in writing at the letterhead address.

This final document copy is being provided to you electronically by the Department of Environmental Protection. A signed copy of this document is on file at the DEP office listed on the letterhead.

Marc Simpson
Section Chief
Bureau of Air and Waste

Enclosure

ecc: MassDEP/Boston - Yi Tian
Doug Stellato, Tighe& Bond, Inc.